

Hong Kong vs. Singapore: A Comparison of Two Real Estate Markets

By Tzu-Yu Chin and John B. Strand, *Real Capital Analytics*

Abstract

Global investors who seek high returns or who wish to diversify by investing in the Far East often consider placing capital in Hong Kong or Singapore due to higher market transparency and governmental regulation than other Asian economies. Although the two markets do have many similarities, understanding the growth factors of each market will help foreign investors be better informed as to which of the two robust markets is more aligned with their investment strategy.

This paper analyzes supply and demand, assesses real estate investment opportunities, and compares and contrasts growth in different sectors of the real estate industry in these two cities. In doing so, the investment allure that each of these markets possess may be further dissected to provide guidance for future regional investments.

The two market analyses are performed in the classic top-down approach beginning with a comparison of *macroeconomic similarities*. Next, a *10-year retrospective* since 1997 provides a general view of the long term trend. The *market size and distribution analysis* statistically examines the markets' similarities in terms of size and distribution. Then, the *yield and growth* in four different sectors are analyzed. In order to understand the local differences of each sector in these two markets, we will discuss the details in the *market dynamics* section, and finally we will discuss the source of capital in the *Capital Flow Trends* and deduce the investment attractiveness and differences associated with each market.

author

Tzu-Yu Chin graduated from the Program in Real Estate at Cornell University in 1999, and now is a senior research analyst of global real estate market for Real Capital Analytics.



Macroeconomic Similarities

Hong Kong and Singapore share similarities in geological, economic, and cultural aspects. Both are Southeast Asian islands with a similar population size and population density. Each is an advanced economic entity of similar size in terms of GDP, the GDP per capita (PPP) for both being greater than US\$40K per year. Due to a lack of natural resources, both rely heavily on international trade. The resulting volume of imports is another comparable measure. Culturally, both Hong Kong and Singapore are English-speaking with ethnic Chinese composing more than 70% of the population.

Hong Kong and Singapore are regional hubs for transport by air and sea, as well as being regional financial centers. The GDP composition of Hong Kong is 92% service-based and only 8% industrial compared to Singapore which is 66% service-based and 34% industrial. It may appear that Singapore has a higher level of industrial activity; however, the difference may not be as large as the GDP composition suggests. Hong Kong is now the key point of transport for Guangdong, a primary province of China with a massive manufacturing base, thus the true measure of Hong Kong's economic performance is influenced by a factor beyond which a simple measure of GDP may suggest.

Item	Unit	Hong Kong	Singapore
Land	sq km	1042	682.7
Population	M	6.98	4.55
GDP	B\$US	203	153.5
GDP (PPP)	B\$US	293.4	222.7
GDP - per capita	\$US	29100	33700
GDP - per capita (PPP)	\$US	42000	48900
GDP composition		Agriculture: 0.1% Industry: 8.1% Services: 91.8% (2007 est.)	Agriculture: 0% Industry: 33.7% Services: 66.3% (2007 est.)
Export (fob)	B\$US	353.3	450.6
Import	B\$US	371.3	396
Export partner		China 47%, US 15.1%, Japan 4.9% (2006)	Malaysia 13.1%, US 10.2%, Hong Kong 10.1%, China 9.7%, Indonesia 9.2%, Japan 5.5%, Thailand 4.2% (2006)
Import partner		China 45.9%, Japan 10.3%, Taiwan 7.5%, Singapore 6.3%, US 4.8%, South Korea 4.6% (2006)	Malaysia 13%, US 12.7%, China 11.4%, Japan 8.3%, Taiwan 6.4%, Indonesia 6.2%, South Korea 4.4% (2006)

Source: Central Intelligence Agency, "The 2008 World Fact Book", 2008.

table 1

Table 1 compares and contrasts Hong Kong and Singapore with known quantitative statistics.

10 Year Retrospective: From Asian Financial Crisis to Economic Boom

The price index for the Hong Kong property market is shown in Figure 1. From the onset of the Asian financial crisis in 1997 until 2003 the market slid. The rebound only began after Hong Kong and China signed the Mainland China/Hong Kong Closer Economic Partnership Agreement (CEPA) in mid-2003. Under CEPA, economic barriers were removed and trade with China now accounts for 50% of Hong Kong's total trade volume. Hong Kong's economy benefited from China's high growth during these years. In addition, the relaxation of travel restrictions boosted Hong Kong's tourism and retail trade significantly. The turnaround has resulted in office, retail and industrial prices reaching or surpassing the levels seen before the crisis, but the residential market just began catching up during the second half of 2007.

Singapore's real estate market was also hit during the Asian financial crisis. However, the Singapore market is more tightly tied to the world economy. The market started to recover in 1998 due to high demand for tech products, but after the internet bubble burst in 2000, the indices declined until 2004, gradually recovering through 2006. After 2006, the residential market grew rapidly due an influx of international workers. Although the office, retail and industrial sectors in Singapore have not recovered to the price levels seen before the Asian financial crisis of 1997, prices have rebounded to 2000 levels. In contrast, the residential sector has surpassed that level due to very strong demand.

Market Size and Distribution Analysis: Two Cities Have Statistically Similarity

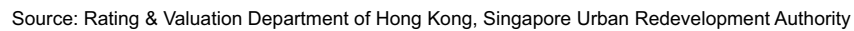
To analyze the difference between the real estate markets of Hong Kong and Singapore, we have utilized data from Real Capital Analytics (New York). The transactions are categorized into six sectors including apartments, development sites, hotels, industrial, office and retail. Each transaction is treated as a single data point and the price per unit is calculated.

author

John manages a team of global research analysts with offices in New York, California and The Netherlands for Real Capital Analytics Inc.



10 year Property Price Index comparison between Hong Kong and Singapore



Since hotels with the same star levels have similar service and hardware standards and the way hotels are priced is comparable worldwide, it is not surprising that the variation of price per unit of hotels is also very similar. Office building, factories and warehouses are not much different in Hong Kong and Singapore, and as such it is reasonable that the ratio of variations is also close to unity for the office and industrial sectors. Retail, apartment and development sites can vary much more greatly in terms of how location, tenancy and quality affect value and thus the variations show larger differences between Hong Kong and Singapore.

In Table 3, the cap rate, bond rate, growth rate and occupancy rate in each sector are listed. A negative spread existed in Hong Kong in every sector except industrial. Since real estate

28 Cornell Real Estate Review

	Apartment	Dev Site	Hotel	Industrial	Office	Retail
UNIT	\$ per unit	\$ per acre	\$ per unit	\$ per sqft	\$ per sqft	\$ per sqft
Mean price per unit						
HK	\$2,420,875	\$142,434,122	\$654,281	\$201	\$1,186	\$6,424
SG	\$1,924,943	\$111,537,354	\$445,963	\$95	\$970	\$1,614
Ratio**	126%	128%	147%	210%	122%	398%
Median price per unit						
HK	\$1,896,180	\$107,070,087	\$653,272	\$184	\$1,175	\$3,252
SG	\$1,331,049	\$50,053,607	\$479,456	\$82	\$923	\$640
Ratio**	142%	214%	136%	226%	127%	508%
QD = (75% percentile -25% percentile) of price per unit						
HK	\$1,469,807	\$205,591,435	\$427,753	\$120	\$869	\$8,542
SG	\$1,823,655	\$73,101,510	\$279,355	\$42	\$667	\$693
Ratio**	81%	281%	153%	290%	130%	1233%
Ratio of QD over Mean (QD/Mean)						
HK	0.61	1.44	0.65	0.60	0.73	1.33
SG	0.95	0.66	0.63	0.44	0.69	0.43
Ratio**	64%	220%	104%	138%	107%	310%
Total Volume (\$US)						
HK	\$1,234,363,096	\$5,793,538,850	\$614,459,783	\$1,122,978,905	\$4,762,058,880	\$1,502,642,550
SG	\$7,577,537,854	\$6,984,513,676	\$556,299,797	\$403,520,697	\$4,940,558,611	\$355,432,581
Ratio**	16%	83%	110%	278%	96%	423%

Source: Real Capital Analytics (RCA) global database **Hong Kong over Singapore

table 2

Statistics of real estate transactions in 2007

Property Types	Office		Retail		Industrial		Apartment	
Countries	HK	SG	HK	SG	HK	SG	HK	SG
Average Cap Rate* (A)	4.24%	4.32%	4.35%	5.1%**	6%	7.28%	4%	2.8%**
10-year Government Bond Rates (Dec. 2007) (B)	4.39%	2.68%	4.39%	2.68%	4.39%	2.68%	4.39%	2.68%
The Spread (A-B)	-0.15%	1.64%	-0.04%	2.42%	1.61%	4.6%	-0.39%	0.12%
Rental Growth Rate	14.67%	56.10%	12.82%	18.20%	8.95%	33.50%	16.37%	41.20%
Price Growth Rate	29.94%	32.60%	20.13%	13.20%	29.64%	23%	23.68%	32.60%
Rental Growth Rate/ Price Growth Rate	49%	172%	64%	138%	30%	146%	69%	126%
Occupancy Rate*	91.60%	97.15%	91.63%	93%	100%	100%		

Source: *RCA, Singapore Government Security, World Bank, Singapore Urban Redevelopment Authority, Hong Kong Valuation & Rating Department, **Jones Lang LaSalle.

table 3

Cap rate, bond rate, growth rate, and occupancy rate in 2007

competes with other assets for capital, the negative spread means either rental growth or capital appreciation is necessary for a real estate investment. Otherwise, investors would be better served buying government bonds.

There were positive spreads across the board in Singapore. The lowest spread, 0.12%, occurred in the apartment sector which had the highest price growth rate at 32.6%. The lowest yield also reveals the large range of capital appreciation in the apartment sector. The industrial sector had the highest spread, 4.6%, but it had high price growth and higher rental growth. In the industrial sector, the rental growth outpaced the price growth so that it still had the highest yield.

In Hong Kong, price growth rate outpaced rental growth rate in every sector. Conversely, rental growth rate outpaced price growth rate in every sector in Singapore. This trend shows that cap rates in Hong Kong are lower than cap rates in Singapore in every sector except the apartment sector. Looking at Figure 1, we can see the Singapore residential sector has performed aggressively since 2006. In 2007, both rental growth rate and price growth rate of Singapore were higher than those of Hong Kong in the apartment sector. Therefore the lower cap rate of the residential sector in Singapore indicates that purchase prices are speculative in this sector.

Market Dynamics

Office: Outstanding Performance in Both Cities Due to Strong Demand and Limited Supply

Singapore and Hong Kong had a striking similarity in total sales volume and cap rates. In 2007, direct real estate investment in the office sector in Singapore was approximately \$5 billion, while Hong Kong experienced about \$4.8 billion in office transactions. The average capitalization rates were 4.23% and 4.32% in Hong Kong and Singapore respectively.

The median Singapore office price reached \$923 psf, significantly less than Hong Kong's median of \$1175 psf. The strong demand for office space from foreign financial institutions, the supply crunch due to the conversion of office space for other uses (about 300,000 sq ft in the 2007), and the high occupancy rate of 97.4% helped the Singapore office average per square foot reach an unprecedented growth in value. Those reasons also kept the office rental price escalating and influenced tenants to consider buying property. Singapore's growth was the largest in the region in 2007, with rents growing by 56% percent and prices by 32.6%.

Like Singapore, Hong Kong also faced strong expansion demand and the shortage of supply in office sectors. However, the reasons driving demand were different. From Table 1, we can see Hong Kong's close economic ties with China. China is not only a major import partner (47%) but also an export partner (45%). With China's prosperity, the demand by banking and financial institutions as well as professional service consultancies fueled the office rental hikes and values growth by almost 15% and 30% in Hong Kong.

The office sectors of both experienced not only capital growth but also rental growth in 2007, yet Singapore will have abundant supply in 2008 while Hong Kong has not had excess supply since 2005. Some 15.28 million sf of offices completed from 2008 to 2011 in Singapore will decrease the upward pressure of rentals and prices. On the other hand, with limited new supply and the negative real interest rate environment, the Hong Kong office sector should remain vibrant in 2008.

Considering the negative spread (cap rate and bond rate difference) arising in Hong Kong, coupled with decreasing interest rate and high cash flow growth expectation, the cap rate will continue to decline in 2008.

Retail: High Demand in Hong Kong Fueled by Strong Tourism from China

The robust economy, prosperous tourism business, and duty-free port created fertile ground for Hong Kong's retail property market. The emergence of Macau did its part to lure 28 million tourists in 2007. With the low unemployment rate, a low interest rate and the strong consumer confidence, a total of \$31.8 billion in retail sales was recorded, a 15.3 % growth year over year.

Retail properties in good locations such as Causeway Bay, Tsim Sha Tsui and Central regularly reached over \$10,000 per square foot. Tsim Sha Tsui and Causeway Bay also experienced substantial rental rise as strong demand from international brands for prominent shop space grew substantially while other locations were more stable in terms of the rate of capital growth and rental growth. The overall retail 4.35% cap rate in 2007 coupled with expectations for continued rental growth and the diminishing interest rate environment would indicate that the cap rates are expected to decrease in 2008.

In 2007, compared with 28.2 million visitors in Hong Kong, there were 10 million visitors to visit Singapore. A healthy economy and a healthy tourist trade helped retail sales significantly in Singapore as sales totaled about \$25 billion, 7.1% higher than the previous year.

According to the press release of Singapore Urban Redevelopment Authority, retail rents sales prices rose 18.2% and 13.2% respectively in 2006 and 2007. Institutional investors and REITS, like Capitalmall Trust and Royal Brothers, began to purchase these stable return properties which had an average occupancy rate of 93%.

The 2007 total retail properties volume was \$1.5 billion in Hong Kong and \$0.4 billion in Singapore, while the median psf of retail property was \$3,252 and \$640 respectively. There were huge differences between Hong Kong and Singapore in terms of total transaction volume and median price per square foot, because of a greater volume of visitors, the grand casino resort of Macau, and increased interest leading up to the Beijing Olympics.

Retail Indicators in 2007	Hong Kong	Singapore
Total Retail Sales (USD)	\$34.9 B	\$14.3 B
Retail Sales Grew y-o-y	12.80%	7.10%
Tourists	28 M	10 M
Tourists Grew Y-o-y	11.60%	5.40%
Tourists from China	15.5 M	1.11 M
Tourists Forecast 2008	30 M	10.8 M
Unemployment Rate	4.2%	3.0%
Master Index of Consumer confidence	85.9	83.6

table 4

Indicators for the retail sectors

Source: Hong Kong Retail Management Association, the Statistics Department of Singapore, Hong Kong Tourism Board, Singapore Tourism Board, Economist Intelligence Unit, MasterCard Worldwide.

Apartment: Residential Demand Boosted the Market in Singapore

Apartment transaction volume (not including individual transactions) totaled \$1.2 billion in Hong Kong and \$7.5 billion in Singapore.

The rapid pace of sales momentum created perpetual activity in the market. Thirty-six percent of total investment sales in Singapore came through collective sales for old condo complexes due to the strong demand for condo renovations and scarce land availability. Buyers in this sector were mostly domestic developers like Capitaland, Bravo Building Construction, City Development, Lippo Group, and Hotel Properties limited. Four forward sales of en bloc condos built by 2010 were purchased by Kuwait Finance House and Capitaland. The average price per unit of these forward sales was \$1.8 million, and that of old condo complexes for future redevelopment was \$1.1 million. The huge price discrepancy revealed the developers' incentives for those residential renovations.

Hong Kong's real effective saving rate has become a negative number and real mortgage rate fell to nearly zero. The positive macroeconomic environments, the low borrowing costs and rising inflation all attract investors who seek capital appreciation by investing in apartment properties in 2008.

For nearly twenty years there has been a severe raw land shortage in Hong Kong. Developers have turned to purchasing older apartment buildings for redevelopment rather than investment. The median price per unit in Hong Kong was \$1,896,180 in 2007, the major buyers being foreign funds and local developers including Mirae Asset, Texas Pacific Group, Nan Fung Group, and New World Development.

The great disparity in total volume and median prices existed between Singapore and Hong Kong's apartment sectors. The Singapore residential market has become the hottest investment target since 2006 as the Singapore property index revealed that the price growth rate of the apartment sector exceeded any other sectors up to this point. The high demand was triggered by the influx of international talents in sectors like service and technologies, resulting in \$6 billion more in transaction volume as compared to Hong Kong.

table 5

Indicators for the residential
sectors

Apartment Indicators	Hong Kong	Singapore
Average Annual GDP Growth Rate 2002-2006	5.58%	6.12%
Best Lending Rate 2007	6.75%	5.33%
Consumer Prices Index	3.5%	4.4%

Source: IMF World Economic outlook, HSBC, Monetary Authority of Singapore, Hong Kong Government, Singapore Statistics.

Hotels: Strong Tourism Supports Both Hong Kong and Singapore

The tourism industry contributes greatly to the GDP in Hong Kong and Singapore. With tourism increasing each year, hotel properties have become an attractive investment target. Both governments have acted aggressively to improve their infrastructure and leisure facilities. Stable political environments, robust economies and stable returns make a bright future for the hotel sector in both Hong Kong and Singapore.

28 million travelers visited Hong Kong in 2007, more than half from China. Hong Kong's government is planning to extend the Individual Visit Scheme² to more cities in Mainland China in order to boost that number. A shared language and the close proximity ensure Chinese visitors will remain the primary source of tourist volume and dollars for Hong Kong in the foreseeable future.

In Singapore, the opening of the third terminal of Changi's international airport and the increased flights to China, India, Australia and other nearby countries, significantly increased tourism. In addition, the emergence of Macau has triggered Singapore to become involved in the casino and gaming industry. With two grand resort and casino developments and the opening of Universal Studios theme park, the hotel sector may achieve its target of 18 million visitors in 2015, nearly double the 10 million visitors that Singapore Tourism Board reported during 2007.

² Prior to July 2003, travelers from China were allowed to visit Hong Kong only on business or in group tours. The individual visit scheme allows Chinese people visit Hong Kong on an individual basis.

	Occupancy	Average Room Rate (US\$)	RevPAR (US\$)	RevPAR growth rate
Hong Kong	83.6%	\$193	\$167	9.9%
Singapore	83.6%	\$165	\$138	28.6%
Ratio	100%	117%	121%	

Source: Hotelbenchmark.com, survey by Deloitte.

table 6

Hotel Statistics in 2007

Table 6 shows that the occupancy rates of the cities were similar, but Hong Kong's RevPAR (revenue per available room) is about 21% higher than Singapore. This difference is also reflected in the price per room in Table 2 that the median price per room in Hong Kong was 36% higher than that in Singapore. The hotel investments in 2007 were active, with \$614M and \$556M recorded in Hong Kong and Singapore respectively. The high RevPAR growth rate also indicates the potential of hotel investment in these two cities.

Industrial: Capital Appreciation in Hong Kong; Rental Growth in Singapore

In Hong Kong, continuing import and export growth supported by China and Europe has increased demand for warehouses. Limited office spaces and the high rental costs make the industrial/office space more and more attractive as an alternative to reduce operating expenses.

Singapore has also faced the dilemma between very high rental cost and the limited supply of office space which drove many financial institutions such as Citigroup and HSBC to relocate their backend services employees out of office towers and into business parks. Yet the demand for warehouse space was not as strong as the demand for mixed industrial/office, as trading volume was influenced by the uncertainty of the global economy.

There was \$1.1 billion worth of industrial property transactions in Hong Kong and \$0.4 billion in Singapore, offering investors the highest yields in any sector in either city. From the end of 2006 to the end of 2007, the price index growth rate outpaced the rental index growth rate in Hong Kong. Things were just the opposite in Singapore, which explains why more transactions occurred in Hong Kong. The incentives of capital appreciation lured investors to buy industrial properties in Hong Kong while investors in Singapore preferred stable income and promising rental growth. This is reflected in the fact that sale-leasebacks made up 65% of the industrial deals in Singapore but only 33% in Hong Kong. In addition, 94% of the industrial property transactions in Singapore were acquired by four major players: Ascendas Group, Cambridge Industrial Trust, MacarthurCook Limited and Mapletree Logistics Trust, while there was a more diversified group of buyers in Hong Kong.

The median price per square foot in Hong Kong was \$186 versus \$82 in Singapore. This price difference may affect the competitiveness of Hong Kong warehouse in the near future if other cities in the Pearl River Delta region in China can offer lower prices and more abundant supply.

“The incentives of capital appreciation lured investors to buy industrial properties in Hong Kong while investors in Singapore preferred stable income and promising rental growth.”

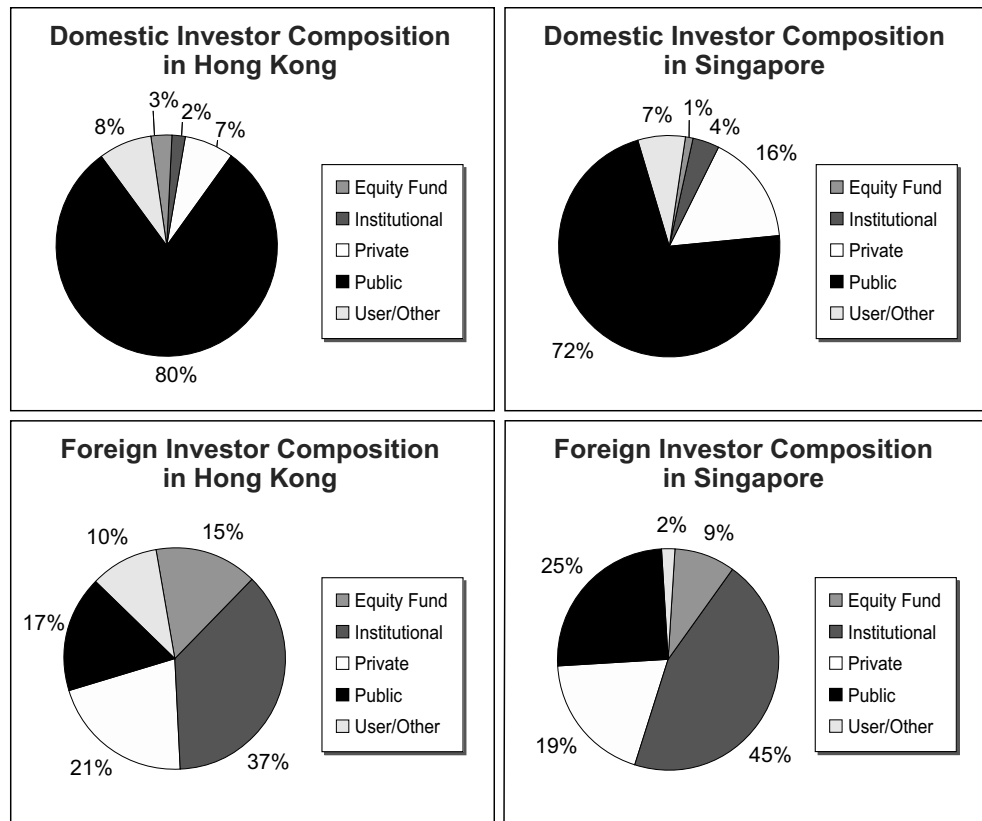
Capital Flow Trend

We have discussed the demand and supply in each sector in the previous section. In this section, the capital flow and buyers' compositions are analyzed in order to further understand the source of demand.

Foreign investors accounted for about 41% of commercial real estate sales in Singapore in 2007 while the foreign investors' investment in Hong Kong made up only 24% of sales. According

figure 2

2007 Buyers' Compositions in
Hong Kong & Singapore



Source: RCA Global Database

to the RCA's data, at \$7.5 billion, Singapore ranks fourth among cities worldwide in inflow of real estate investment, after London, New York and Paris. This is compared with Hong Kong which had only \$2.6 billion in 2007. The sources of foreign investment are also quite different. Singapore received 83% of all foreign investment capital from countries outside its region such as the United Arab Emirates, the United States, Australia and Germany and only 17% from its neighboring eastern and Southeast Asian countries, while most of Hong Kong's foreign investment in real estate came from its neighbors.

The buyer demographics for both domestic and foreign investors are shown in Figure 2. Public real estate companies dominated the 2007 domestic buyers' composition both in Hong Kong and Singapore, accounting for over 70% of all transactions. When we look at foreign investor composition, the institution investors were the major players in both markets. The domestic buyers' compositions in Singapore and Hong Kong are quite similar, as are the foreign buyers' compositions. Therefore the key difference, from the demand side, is not the buyer composition (institutional, public, private etc.) but rather the source of capital (domestic vs. foreign).

In the Yield & Growth section, we found sales price growth rate outpaced rental growth rate in every sector in Hong Kong, and it is suited for short term investment. On the other hand, rental growth rate outpaced sales price growth rate in every sector in Singapore. (Table 3) These findings are consistent with the capital trends: The continuously improved infrastructure, the efficient government, and the more diversified industries in Singapore attracts more foreign investors seeking for long-term and stable growth, while Hong Kong's booming economy due to close tie with rapid growing China lures more domestic investors speculating for shorter term gains.

Conclusion

The Singapore and Hong Kong markets have similarities in terms of economic size, composition, and GDP performance. However, the fundamental demand generators for real estate are substantially different in these two markets.

Although Singapore and Hong Kong do have similar macroeconomic characteristics, including market size and distribution, this research finds that disparate funding sources influence each market. The Singapore real estate market is influenced to a greater extent by the world economy while demand in the Hong Kong market is largely local and the local economy is greatly influenced by the Chinese economy.

So in conclusion, what does this mean for the foreign investor who has opportunities in both the Hong Kong and Singapore markets? Perhaps if you want to invest for the long term, look at Singapore, but if short term gains are the favored investment strategy, then Hong Kong may be the preferred market.

The supply of foreign capital has been severely affected by the subprime crisis and credit crunch in the United States. A commercial real estate market slump in Singapore has been forecast in 2008 due to the shaky world economy and the shortage of capital. However, the Singapore government keeps improving its investment environment and the infrastructure of retail and leisure industry, so investors seeking long term growth perhaps could seize opportunities right now in Singapore.

China's continuing strong GDP growth and the upcoming 2008 Olympics will positively influence the Hong Kong real estate market. Investors looking for short term investment opportunities should invest in good quality properties, because Hong Kong's close ties with China are an advantage but also a potential long term hindrance. With its occidental roots, Hong Kong has long enjoyed a great lead on China by being a hub in the global financial market, remaining a desirable destination for tourists and shoppers, and having the industrial infrastructure to benefit from China's great industrial capacity. As China continues to grow, its influence on the financial markets may begin to overshadow that of Hong Kong. Increased retail and tourism-based development may reduce the desire and need of the Chinese mainland to flock to Hong Kong as a tourist destination, and China may find itself building the infrastructure to support its industrial volume both of which, up until now, have been the driving force behind Hong Kong's growth.

Investors should be cautious when judging how soon any of these changes may occur in either Singapore or Hong Kong. Government sponsorship in the case of Singapore, and continually increasing financial sophistication and growth in China in the case of Hong Kong, may appear to position either economy in a certain direction, yet predicting the future will always be the roulette of investment. Hopefully this analysis provides some tool for understanding the potential risks and opportunities associated with two powerfully attractive south Asian markets.

Reference

- Central Intelligence Agency, "The 2008 World Fact Book", 2008.
- Economist Intelligence Unit.
- Hong Kong Retail Management Association, Hong Kong.
- Hong Kong Tourism Board, Hong Kong.
- Hotelbenchmark.com, survey by Deloitte.
- HSBC.
- IMF World Economic outlook.
- Jones Lang LaSalle, "Asia Pacific Property Digest, South Area", 4Q 2007.
- MasterCard Worldwide.

- Monetary Authority of Singapore, Singapore.
- Rating & Valuation Department, Hong Kong.
- Real Capital Analytics, global real estate database.
- Singapore Government Security, Singapore.
- Singapore Tourism Board, Singapore.
- Statistics Department of Singapore, Singapore.
- Urban Redevelopment Authority, Singapore.
- World Bank.